Ten Years of The World's Water: Where Have We Come, Where are We Heading?

Dr. Peter H. Gleick

Pacific Institute, Oakland, California

November 2006

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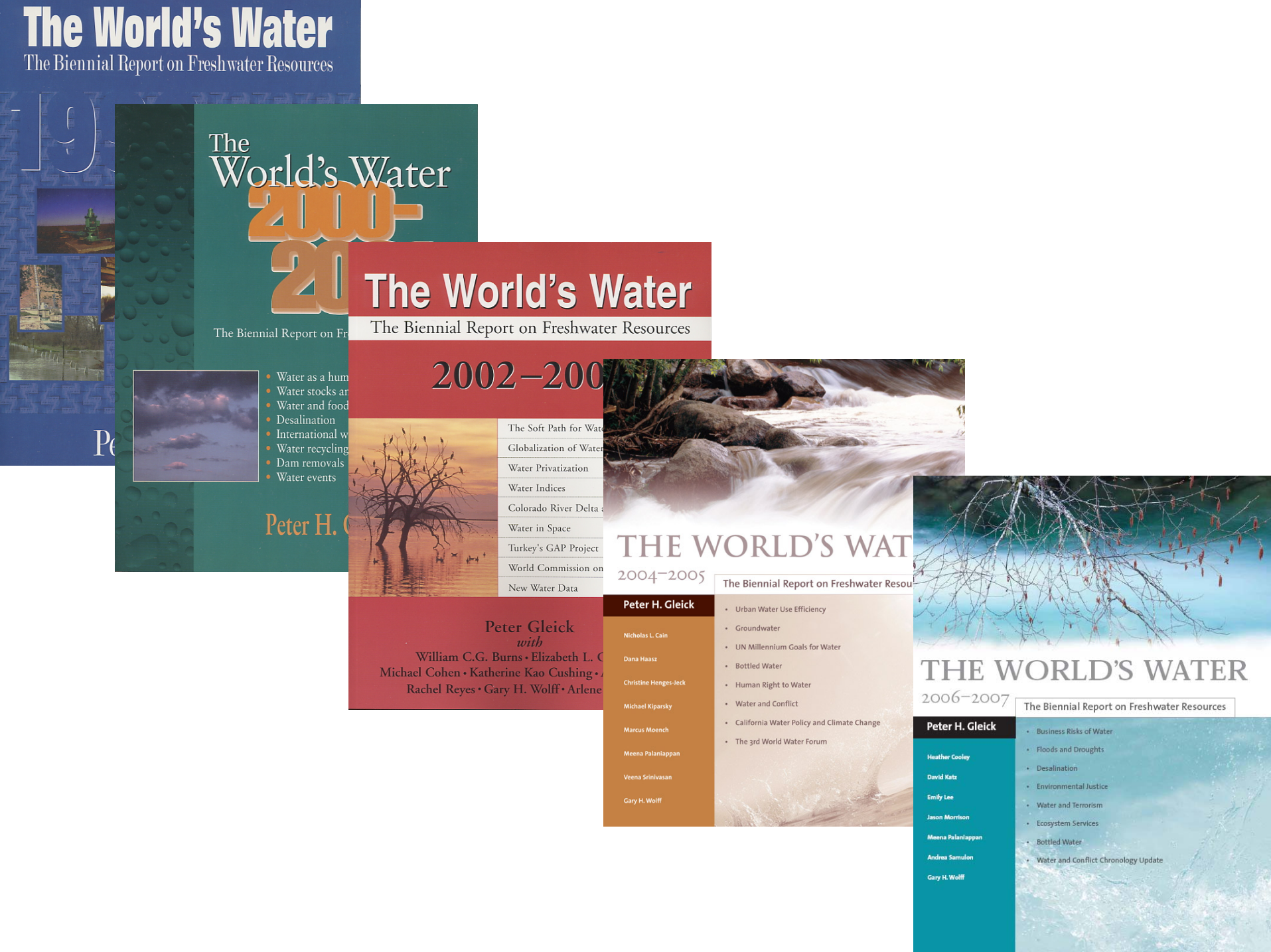
Research for People and the Planet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Turkey's GAP Project
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New Water Data
Peter Gleick
with
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Nicholas L. Cain
Dana Haasz
Christine Henges-Jeck
Michael Kiparsky
Marcus Moench
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Urban Water Use Efficiency
Groundwater
UN Millennium Goals for Water
Bottled Water
Human Right to Water
Water and Conflict
California Water Policy and Climate Change
The 3rd World Water Forum
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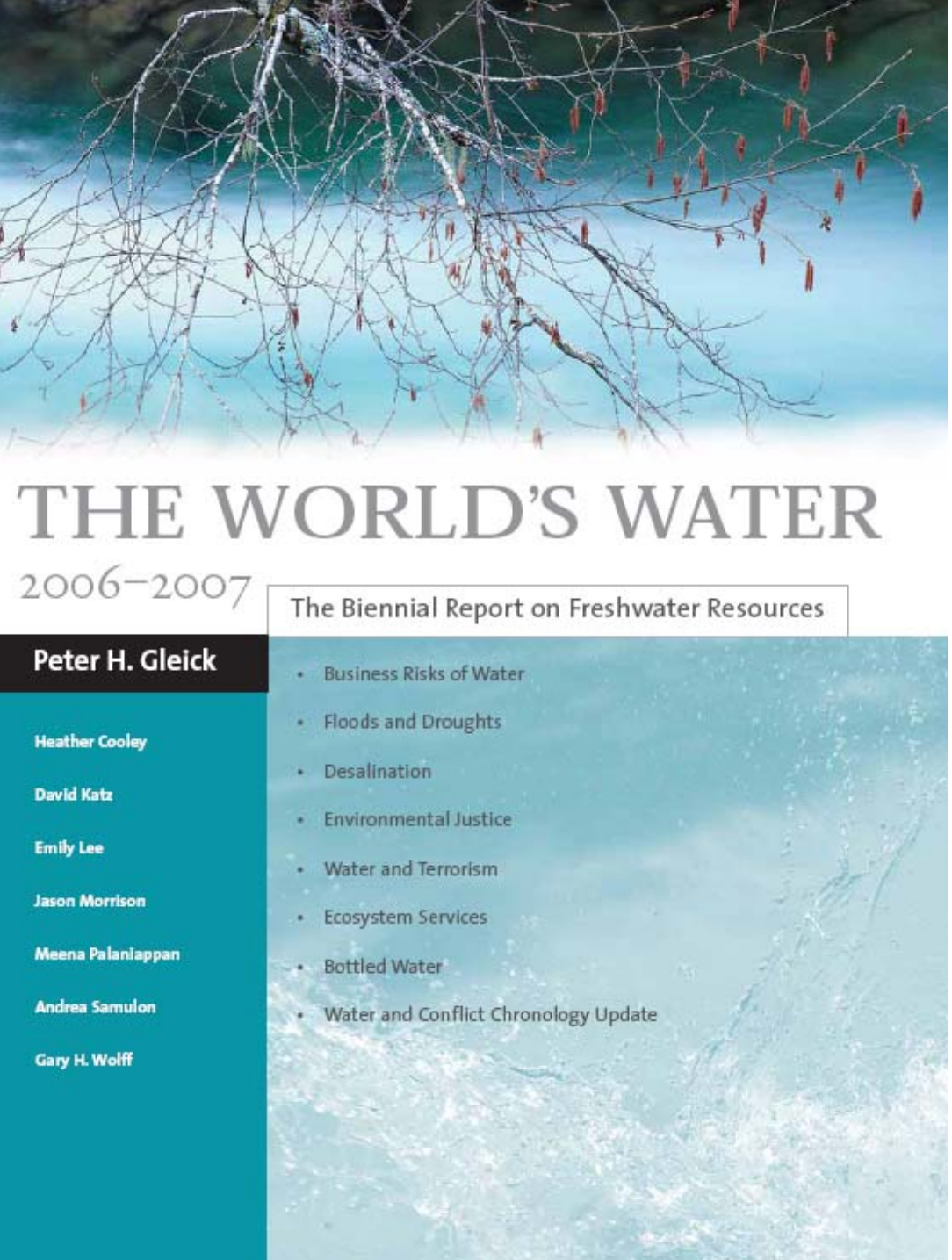
Floods and Droughts
Desalination
Environmental Justice
Water and Terrorism
Ecosystem Services
Bottled Water
Water and Conflict Chronology Update



- Peter Gleick
- Heather Cooley
- David Katz
- Emily Lee
- Jason Morrison
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- Andrea Samulon
- Gary Wolff

[*Island Press, Washington*]

The World of Water: mid-1990s

- Billions without access to basic water services.
- Deteriorating natural ecosystems.
- Little public awareness of global water problems.
- Ongoing disputes and violence over water.
- No coherent US international water policy.
- No coherent US national water policy.

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But some things *have* changed…

- Growing public interest in water.
- Increased involvement of communities.
- New efforts at ecosystem restoration.
- The adoption of the Millennium Development Goals.
- Review/reassessment of US water policies.
- Smarter economics; new technologies.
- A move away from ideological approaches.

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What's New in *The World's Water 2006-2007*

- Water and terrorism: what *are* the risks?
- Ecosystem water: new efforts at restoration.
- Desalination: costs and benefits.
- Floods and droughts, past and future.
- Environmental justice for water.
- Business risks of water.
- ***In Briefs***: Bottled Water Update; Water on Mars; Water and Conflict
- Data

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Some Facts and Numbers From TWW 2006-2007

- More than 50 incidents of water-related terrorism are described, starting in the 1700s.
- Over half of the accessible freshwater on earth is appropriated by humans.
- Over half of all wetlands worldwide have been lost to “development.”
- Efforts to protect and restore water for ecosystems are underway in over 70 countries.

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Some Facts and Numbers From TWW 2006-2007

- There are >10,000 desalination plants worldwide. Capacity exceeds 35 million cubic meters of water every day.
- Between 1900 and 2005 floods and droughts killed over 17 million people and affected 5 billion more.
- More than a billion people still lack access to safe drinking water and more than 2.5 billion lack access to adequate sanitation.

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Some Facts and Numbers From TWW 2006-2007

- Water is a $400-$500 billion a year business.
- Bottled water sales continue to grow, though the rate of growth slowed last year. Bottled water remains 1000 times more expensive than high-quality tap water.
- There have been more than 100 official “recalls” of bottled water in recent years.
- India produces more than 15% of its food with unsustainable groundwater.

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Some Facts and Numbers From TWW 2006-2007

- China is limiting new water-intensive businesses.
- The number of cases of guinea worm dropped to its lowest level ever reported, and eradication now appears possible.
- Between 1992 and 2001, pesticides were detected in 97 percent of all US stream samples.
- Mars is revealing a past history of liquid water.

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We must rethink the future: There is no "silver bullet."

- New approaches to solving water problems are possible, but water planning and management must change.
  - We must think differently about the "value of water" and the concept of "supply."
  - We must think differently about future "demand" for water.
  - We must think differently about policies, tools, and approaches. What works? Why? Where? Can it be "scaled up?"

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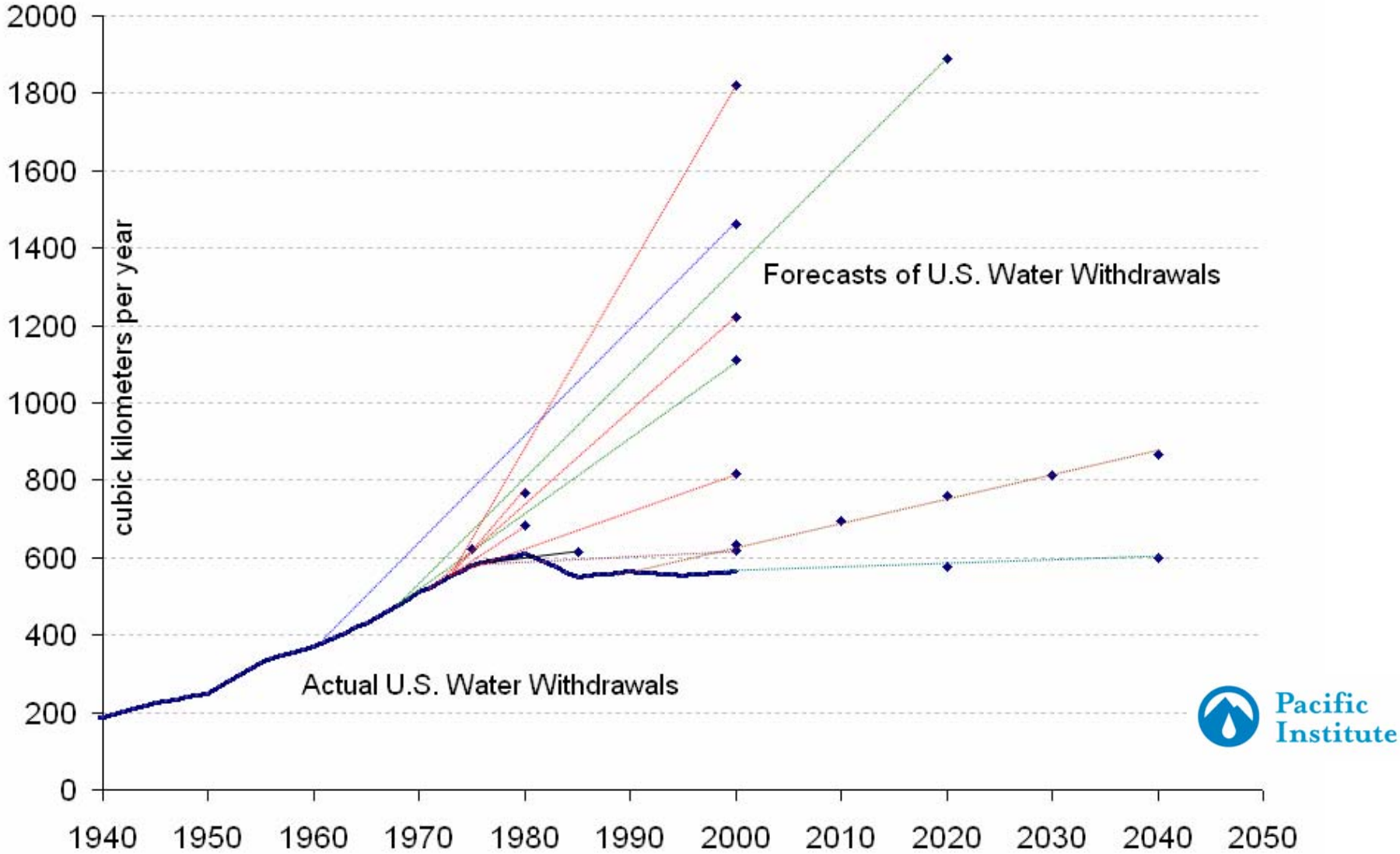
Projections of Future Water Needs are Routinely Too High



Things are already changing…

- Our understanding of the true costs of traditional supply – the “hard path.”
- Our understanding of the potential to improve efficiency of use.
- The nature of our economies.

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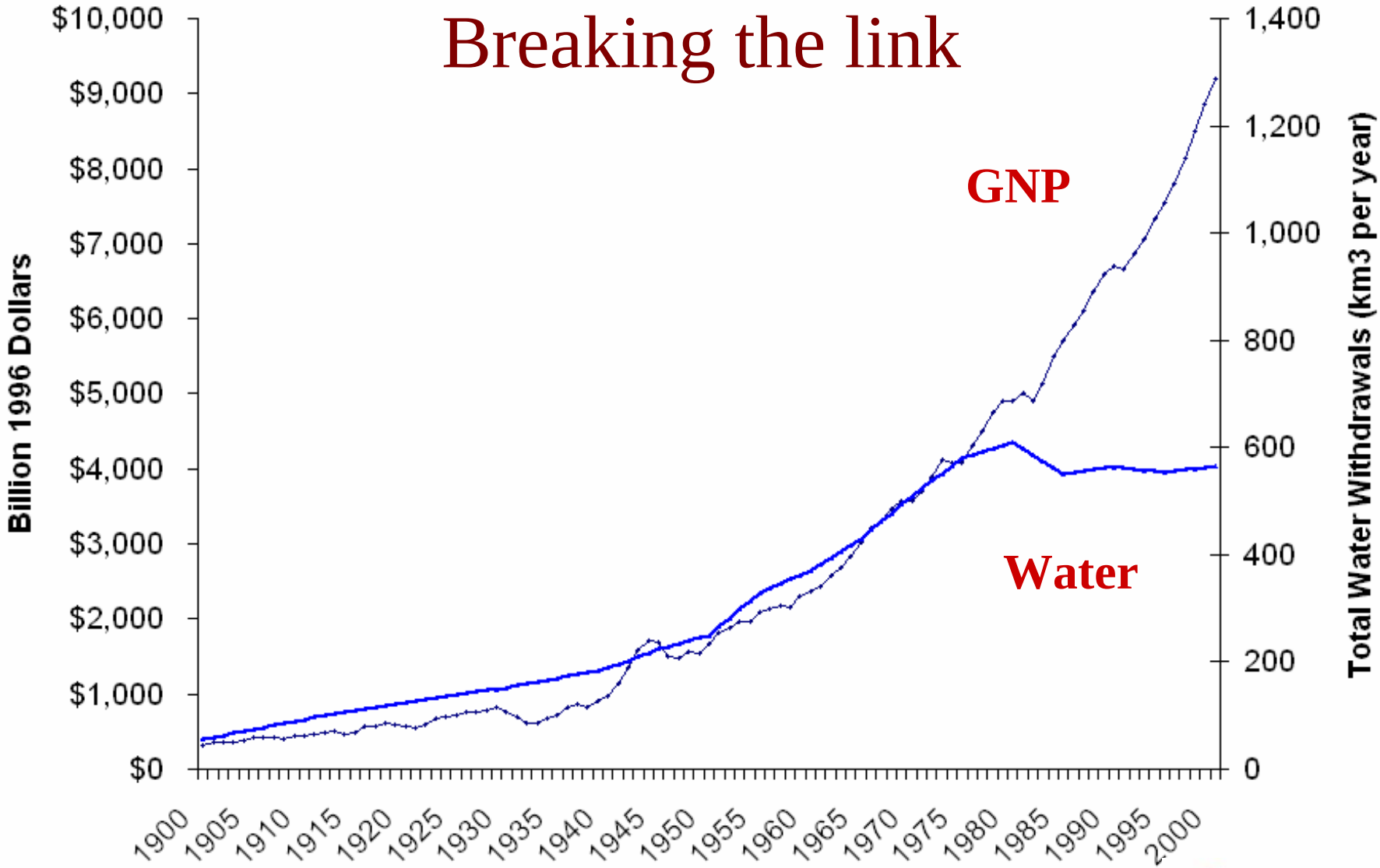
U.S. water withdrawals and GNP: Breaking the link



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Other Changes?

- The Paul Simon Water for the Poor Act.
- A new direction in Congress?
- New, but uncertain, foundation interest
- Growing involvement of some new kinds of participants: celebrities; financial institutions; innovative partnerships…

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What about the role of science in policy?

- Good policy without good science and analysis is … unlikely.
- Good policy with *bad* science is even more unlikely.
- The integrity of science is key. We live in an increasingly polarized, critical, cynical world: efforts to diminish respect for media, government, academics, and science will diminish the chances of solving problems.

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Recent Experience is Disheartening

Logical Fallacies

- Arguments from ignorance
- Arguments from error
- Arguments from ideology
  - Personal Belief
  - Personal Incredulity
  - Tradition
- Arguments from consensus…

Abuse of Science

- Appeal to emotion
- Personal attacks
- Straw man arguments
- Misuse of facts
- Misuse of uncertainty
- Falsification/ Suppression
- Manipulation of the scientific process
- Selective funding (or de-funding)…

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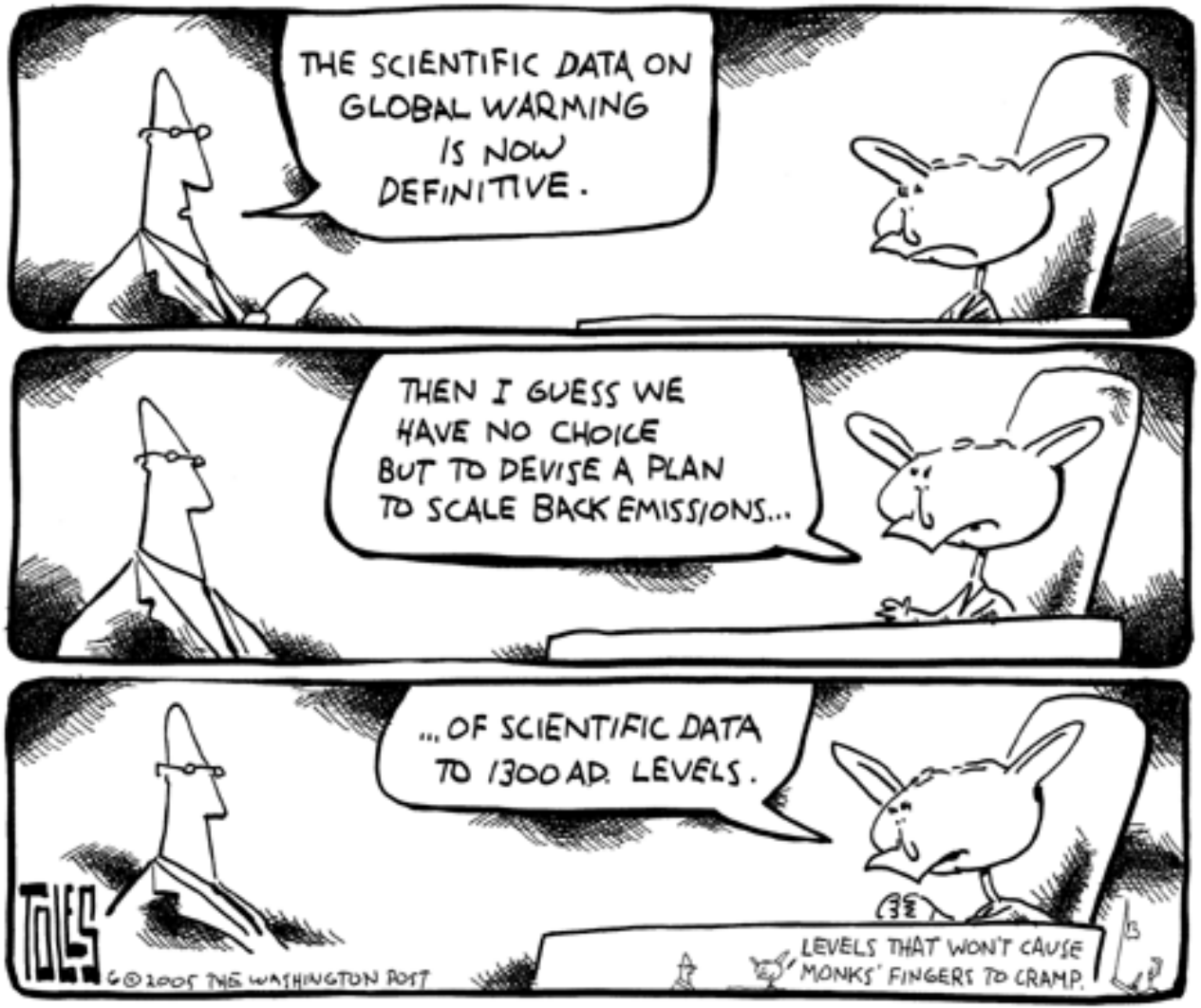
Manipulation of the Process: Suppression of Information; Selective Choice/Use of Data



Argument from Error? Misuse of Facts?

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Scientific Misconduct: Fabrication and Falsification of Data

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Final Thoughts

- The water problem is real and bad.
- Not everything is getting worse.
- There are human, economic, and environmental costs to inaction.
- Key principles should be applied, including diversity of solutions, proper application of economics and science, public participation, and integration of environmental considerations.
- New thinking is needed. What solutions are sustainable, scalable, and socially responsible?
- And new actions and commitments are needed.

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